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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/596,847	06/27/2006	Jasko Musacfendic	AP099-06	1292

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EXAMINER

HUTCHINSON, SHAWN R

ART UNIT	PAPER NUMBER
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4174

MAIL DATE	DELIVERY MODE
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12/05/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/596,847	Applicant(s) MUSAEFENDIC, JASKO	
	Examiner Shawn R. Hutchinson	Art Unit 4174	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 61-80 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 61-80 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 27 June 2006 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>27 June 2006</u> . | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

1. Claims 1-60 are canceled.

Drawings Objections

2. The drawings in Figures 1-3 are objected to because the line art appears to be rasterized, which reduced the image illegibly, ambiguously, and indiscernibly. The Figure labels and therefore difficult to read and obscures the detail and hashing of figures. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the Examiner does not accept the changes, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

4. Claims 74-79 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter that was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. The limitation of nanostructure fails to provide additional direction regarding how the laminated is different by virtue of its manufacture and/or resulting structure. There are further insufficient details in the specification relating to how this embodiment differs from the high impact strength elastic laminate system, the latter by definition is structured on the nanometer scale by virtue of how the polymers form the elastic solid.

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claims 74-79 rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The use of nanostructure fails to provide in sufficient clarity the characteristics of the nanostructure laminate.

7. Regarding claims 64-66, 68, 75, and 79 the phrase "but not limited to" renders the claim(s) indefinite because the claim(s) include(s) elements not actually disclosed (those encompassed by "but not limited to"), thereby rendering the scope of the claim(s) unascertainable. See MPEP § 2173.05(d).

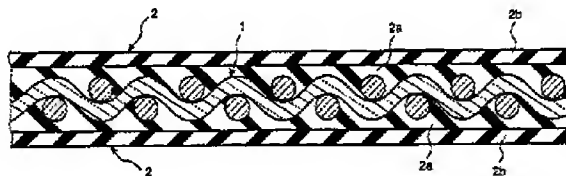
Claim Rejections - 35 USC § 102

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) The invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the U.S.

9. Claims 61-67, 74-76, and 79-80 are rejected under 35 U.S.C. 102(b) as being anticipated by Percy (US 5447594 A).



Percy teaches a multilayer elastic fabric-reinforced laminate system comprising first and second outer layers (2), a matrix material surrounding and between plies (2a), two inner plies between the outer layers by virtue of the alternating orientation of warp yarns of woven fabric, and a dissipating element by virtue of the weft yarns (1).

Regarding Claim 61, this embodiment conforms to the structure of the instant teaching in Figure 1 whereby the tube or weft yarns could be interlaced with alternating warp yarns [0015]. This interpretation of the structure of the plies and dissipating element

finds support in the instant Application where the plies are, “constructed from a variety of dry... reinforcement materials such as but not limited to: glass... and any other single or hybrid fibres, in combination with variety of any known thermosetting and thermoplastic matrices” [0016]. The dissipating elements can be, “various... natural and non-natural structures in a form of, but not limited to: other geometric shapes... textured... or other structures having the function of dissipation and redirection of local active outer loading applied to at least one of the faces” [0015].

Percy teaches fiber cloth can comprise glass and layers of nitrile rubber (C1:44-45 | C2:L6-30). The tubular weft yarns between the unidirectional tubular warp plies constitute a dissipating element as defined by Applicant [Figures 2-3] by redirecting load to dampens the noise in braking systems ipso facto (C1:L8-21) corresponding with Applicant’s [[Claims 61-63, 65, 67, 74-76, & 79-80]]. Both the matrix and outer layers comprise rubber (C1:L48-C2:L4) corresponding with Applicant’s [[Claims 64, 66, & 69]].

10. Claims 68-71 and 77-78 are rejected under 35 U.S.C. 102(b) as being anticipated by Percy (US 5447594 A) as applied to Claims 67 and 76 with evidence from Shigley et al. {Shigley} (*Standard Handbook of Machine Design*).

The vulcanized nitrile rubber comprising the matrix is known in the art to be corrosion resistant (C1:L33-42) corresponding with Applicant’s [[Claims 68 & 77]]. Shigley teaches that nitrile rubber is resistant to attacks or corrosion by mineral oils (Table 25.3). Since Applicant provides no explicit definition of corrosion resistance, this

resistance to attack by mineral oil easily meets this limitation, corresponding with Applicant's [[Claim 68 & 77]].

Percy teaches fiber cloth can comprise glass and layers of nitrile rubber (C1:44-45 | C2:L6-30). The tubular weft yarns between the unidirectional tubular warp plies constitute a dissipating element as defined by Applicant [Figures 2-3] by redirecting load to dampens the noise in braking systems ipso facto (C1:L8-21) corresponding with Applicant's [[Claims 69-71 and 77-78]]. Both the matrix and outer layers comprise rubber (C1:L48-C2:L4) corresponding with Applicant's [[Claims 69-71 and 77-78]].

Claim Rejections - 35 USC § 103

11. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

12. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

13. Claim 72 is rejected under 35 U.S.C. 103(a) as being unpatentable over Percy (US 5447594 A) in view of Brydson (*Plastics Materials*).

As discussed above, Percy teaches a multilayer elastic fabric-reinforced laminate system comprising first and second outer layers (2), a matrix material surrounding and between plies (2a), two inner plies between the outer layers by virtue of the alternating orientation of warp yarns of woven fabric, and a dissipating element by virtue of the weft yarns (1). Percy lacks teaching the range of impact resistance of the embodiments.

Brydson teaches properties of nitrile rubber in the form of ABS (acrylonitrile-butadiene-styrene) rubber. The impact strength with units of $\text{ft}\cdot\text{lbf}\cdot\text{in}^{-1}$ up to 7.0 converts to $9.5\text{-J}\cdot\text{in}^{-1}$ (Page 445). Thus, the impact resistance is easily optimized as a result-effective variable based on the selection of the type of nitrile rubber and the size of the composite to obtain dimensional properties of the composite. This limitation as claimed is unpatentable; see *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980).

At the time of the invention, it would have been obvious to routinely experiment with the rubber material {Percy} to optimize the impact resistance of the composite {Brydson} to obtain the invention as claimed. The motivation would have been to obtain different impact properties of the rubber as explicitly taught in the row labels in the table.

14. Claim 73 is rejected under 35 U.S.C. 103(a) as being unpatentable over Percy (US 5447594 A) in view of Brydson (*Plastics Materials*) and Avallone et al. {Avallone} (*Standard Handbook for Mechanical Engineers*).

As discussed above, Percy teaches a multilayer elastic fabric-reinforced laminate system comprising first and second outer layers (2), a matrix material surrounding and between plies (2a), two inner plies between the outer layers by virtue of the alternating

orientation of warp yarns of woven fabric, and a dissipating element by virtue of the weft yarns (1). Percy lacks teaching the density of the embodiments.

Likewise, the specific gravity of the rubber ranges from 1.02 to 1.07, and thus the density of the composite is also a result-effective variable to obtain dimensional properties of the composite ({Brydson} Page 445 | {Avallone} Table 6.1.5 Record 48). The limitation as claimed is thus unpatentable; see *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980).

At the time of the invention, it would have been obvious to routinely experiment with the rubber material {Percy} to optimize the density the composite {Brydson | Avallone} to obtain the invention as claimed. The motivation would have been to obtain different impact properties of the rubber as explicitly taught in the row labels in the table.

15. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. See PTO-892 for additional information.

Conclusion

Any inquiry concerning this communication from the Examiner should be directed to Shawn R. Hutchinson whose telephone number is (571) 270-1546. The Examiner can normally be reached on 7 AM to 5 PM, M-F, alternate Fridays off.

If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's supervisor, D. Lawrence Tarazano can be reached on (571) 271-1515. The fax phone number for the organization where this application is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at (866) 217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call (800) 786-9199 (IN USA OR CANADA) or (571) 272-1000.

/D. Lawrence Tarazano/
Supervisory Patent Examiner, Art Unit 4174

Shawn R. Hutchinson
Examiner
Art Unit 1709